WHAT IS CLAIMED IS:

1. A wireless communication apparatus

5 comprising:

a multipath detection part which detects a state of multipath in said wireless communication apparatus; and

a send part which sends multipath

10 detection information detected by said multipath
detection part to a wireless communication apparatus
at the other end.

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2. A wireless communication apparatus comprising:

a multipath component canceling signal
generation part which generates a signal which
cancels a multipath component in a wireless
communication apparatus at the other end on the
basis of multipath detection information
representing a state of multipath sent from said
wireless communication apparatus at the other end;
and

a send part which sends said signal which cancels said multipath component generated in said multipath component canceling signal generation part to said wireless communication apparatus at the other end.

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3. The wireless communication apparatus as claimed in claim 2, said multipath component

canceling signal generation part comprising:

a multipath component generation part which generates a multipath component on the basis of said multipath detection information representing said state of multipath in said wireless communication apparatus at the other end; and an interference wave detection part which

an interference wave detection part which detects an interference wave occurring between said multipath component and a send wave.

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4. The wireless communication apparatus as 15 claimed in claim 3, said interference wave detection part comprising:

a filter part which filters a synthesized wave of said multipath component and said send wave; and

an interference wave signal generation part which generates an interference wave signal corresponding to that in said wireless communication apparatus at the other end by comparing output signal from said filter part and said send wave.

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5. The wireless communication apparatus as 30 claimed in claim 4, further comprising:

an opposite phase part which changes a phase of said interference wave signal to an opposite phase of said phase; and

a send part which sends said interference 35 wave signal having said opposite phase to said wireless communication apparatus at the other end.

- 6. The wireless communication apparatus as claimed in claim 2, wherein said wireless communication apparatus sends an opposite phase wave of said signal which cancels said multipath component at a time position of a multipath having no interference in order to cancel said signal which cancels said multipath component.
- 7. A wireless communication method comprising the step of:

a wireless communication apparatus sending a signal which cancels a multipath component in a wireless communication apparatus at the other end to said wireless communication apparatus at the other end with a send signal.

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8. The wireless communication method as claimed in claim 7, wherein said signal which cancels said multipath component is a signal inverted from an interference wave signal generated from said multipath component in said wireless communication apparatus at the other end.

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9. A wireless communication method comprising the steps of:

a first wireless communication apparatus detecting a state of multipath in said first wireless communication apparatus;

said first wireless communication

5 apparatus sending multipath detection information on said state to a second wireless communication apparatus;

said second wireless communication apparatus receiving said multipath detection information;

said second wireless communication apparatus generating a signal for canceling a multipath component in said first wireless communication apparatus on the basis of said multipath detection information; and

said second wireless communication apparatus sending said signal for canceling said multipath component to said first wireless communication apparatus.

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